REGION 55 WINDOW 4 NPSPAC CHANNEL APPLICATION GUIDELINES

In order to facilitate an improved frequency application process, the following is the prescribed application process, detailing the engineering requirements that need to be addressed. Each new or modified frequency requested by an applicant or existing licensee must strictly adhere to this process and provide required engineering documents.

Checklist of Requirements

- Technical Information Sheet and contact person
  - Region 55 FDR2 (modified) Application for Channel Allotments[1]
  - Antenna manufacturer, model, pattern, azimuth, down tilt, and height above ground.
- Copy of existing NPSPAC License to which channels are either being modified or added (if applicable)
- Co-Channel Analysis Consistent with Modeling Parameters (per frequency)
- Adjacent Channel Analysis Consistent with Modeling Parameters (per frequency)
- Sketch of System with a written description

Modeling Parameters & Methods

The technical statement, which presents a detailed description of the system, existing and as proposed, including coverage analysis, shall be presented for Committee review. For reference coverage analysis that determines availability may also be performed by the Region 55 Technical Committee using ComStudy 2.2 (latest version) Radio Propagation Prediction software, with the following parameters:

- Prediction Model: **Okumura-Hata**
- Area Type: **Suburban**
- Land Use Attenuation: **None**, not to be applied
- Mobile Receiver Height: **1.5 meters** above ground level
- Additional Attenuation: **None**
- Terrain Input Resolution: **3 second**
- Terrain Output Resolution: **6-12 second**
- Reliability/Confidence: **Not applicable** in this model (median)
- Study Distance: **115 km** Radius about the proposed site

Each frequency and location to be analyzed shall be modeled by the applicant using the above propagation model, either using ComStudy 2.2 software (latest version), or with other equivalent software. However, all transmitter information must be provided in an input format on standard data media, as described in the Administration Paragraph of this document, from which the sites' technical parameters (listed below) can be imported for use in ComStudy 2.2 software (latest version).

[1] As an option to facilitate a more rapid review process, an FCC Form 601 in hardcopy and in FCC Electronic Batch File (EBF) format may be submitted in addition to the Region 55 FDR-2 (modified).

Technical Parameters:

- Unique site name per frequency per site
- Latitude and Longitude in NAD83
- Main HORIZONTAL Lobe ERP in watts
- Frequency in MHz
- Antenna Above Ground Level in meters (antenna radiation centerline)
- Ground Elevation Above Mean Sea Level in meters
- Modulation Emission
- Actual Transmit Antenna Make & model number, horizontal & vertical patterns[2], azimuth, gain, and downtilt

Co-Channel Modeling & Analysis

To review the effects of the proposed new or modified selection, a landscape plot on 8.5" x 11.0" with no more than 1" margins shall be provided for each of the co-channel frequencies and locations in a radius of 120-km from each site of the new request. The coverage propagation of each new or modified frequency and location is to be calculated at 5-dBuV/m. This 5-dBuV/m contour shall not overlap any incumbents' calculated 40-dBuV/m contour anywhere within their authorized jurisdictional area, as calculated based on current licenses or Region 55 allotments corresponding to the co-channel entities' areas of operation.

Note: Use of R6602 curves is not acceptable for either new or incumbent licensees.

Each Co-channel analysis plot shall be labeled with:

- Applicant's Name
- Channel number and corresponding frequency in MHz

Co-Channel Package shall consist of:

- A listing all Co-Channel Licensees & their respective Call Signs 120-km or less from each proposed antenna location
- A listing and describing the plots provided
- All Co-Channel analysis plots
- A transmitter information report shall be provided for each individual co-channel analysis plot identified with
    - Applicant's Name
    - Channel number and corresponding frequency in MHz

[2] Preferably, it shall be supplied in conformance with the TIA-IS 804-1 standard for Terrestrial Land Mobile Radio Antenna Systems – Standard Format for Digitized antenna patterns.

Adjacent Channel Modeling & Analysis

To review the effects of the proposed new or modified selection against upper and lower adjacent channels (subject freq ± 12.5 KHz), a landscape plot on 8.5" x 11.0" with no more than 1" margins shall be provided for each of the adjacent frequencies and locations within 80-km from each site of the new request. The coverage propagation of each new or modified frequency and location is to be calculated to 25-dBuV/m. This 25-dBuV/m prediction shall not overlap any incumbents' calculated 40-dBuV/m predictions within their jurisdictional service area.

Note: Use of R6602 curves is not acceptable for either new or incumbent licensees.

Each adjacent channel analysis plot shall be labeled with:

- Applicant's Name
- Channel number and corresponding frequency in MHz
- Adjacent Channel Plot (#) of (total # of adjacent channel Plots)

The Adjacent Channel Package shall consist of:

- A listing of all adjacent channel Licensees & their respective callsigns 80-km or less from each proposed antenna location
- A listing describing the plots provided
- All adjacent channel analysis plots
- A transmitter information report shall be provided for each individual adjacent channel analysis plot identified with:
    - Applicant's Name
    - Channel number and corresponding frequency in MHz

Additional Modeling & Analysis

The applicant may also provide additional or more detailed analyses than that outlined within these guidelines. These additional showings will be considered in the evaluation of the applicant's request. These additional analyses may include items such as:

- Studies considering the antenna patterns of licensed incumbents
- More sophisticated interference studies, such as signal to interference and/or reliability degradation in the presence of aggregate incumbent interference sources.
- Showings for a reduction of the 25-dBu adjacent channel interference threshold level (this would include technology-to technology ACCPR analyses)

The applicant is encouraged to discuss the use of these additional items with the technical and RPUC Committees prior to submission within their application.

Administration

Three (3) hard copies and Ten (10) CD-ROM copies of the complete application and technical analysis are to be presented to the Region 55 Committee.